SEQUENCE LISTING

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<120> METHOD FOR ENHANCING RNA OR PROTEIN PRODUCTION USING NON-NATIVE 5' UNTRANSLATED SEQUENCES IN RECOMBINANT VIRAL NUCLEIC ACIDS

<130> 008010137CNUS16

<140> To be assigned
<141> Herewith

<150> 09/359,299
<151> 1999-07-21

<160> 49

<170> FastSEQ for Windows Version 3.0

<210> 1
<211> 117
<212> DNA
<213> Tobacco mosaic virus

<220>
<221> CDS
<222> (49)...(117)

<400> 1

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                                                       1

ctg aac acc atg gtg aac aaa cac ttc ttg tcc ctt tcg gtc ctc atc      105
Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser Val Leu Ile
     5                  10                  15

gtc ctc atc gtc                                                     117
Val Leu Ile Val
 20
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<210> 2
<211> 23
<212> PRT
<213> Tobacco mosaic virus

<400> 2
Met Gln Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser
1 5 10 15
Val Leu Ile Val Leu Leu Gly
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<210> 3
<211> 138
<212> DNA
<213> Tobacco mosaic virus

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gtgaacaaac acttcttgtc cctttcggtc ctcatcgtcc tccttggcct ctcctccaac 120
ttgacagccg ggcaagtc 138

<210> 4
<211> 33
<212> PRT
<213> Tobacco mosaic virus

<400> 4
Met Gln Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser
1 5 10 15
Val Leu Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Gln
20 25 30
Val

<210> 5
<211> 109
<212> DNA
<213> Tobacco mosaic virus

<400> 5
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cctcatcgtc ctccttggcc tctcctccaa cttgacagcc gggcaagtc 109

<210> 6
<211> 31
<212> PRT
<213> Tobacco mosaic virus

<400> 6
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Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Gln Val
20 25 30

<210> 7
<211> 259
<212> DNA
<213> Tobacco mosaic virus

<400> 7
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gtgaacaaca cttcttgtcc ctttcggtcc tcatcgtcct ccttggcctc tcctccaact 120

tgacagccgg catgcaggtg ctgaacacca tggtgaacaa acacttcttg tccctttttg 180
tccctttcgg tcctcatcgt cctccttggc ctctcctcca acttgacagc cggcaagtcg 240
gcccagttta aacggtacc 259

<210> 8
<211> 60
<212> PRT
<213> Tobacco mosaiv virus

<400> 8
Met Gln Val Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser Val
1 5 10 15
Leu Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Met Gln
20 25 30
Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Val Leu Ile Val
35 40 45
Leu Leu Gly Leu Ser Ser Leu Thr Ala Gly Gln Val
50 55 60

<210> 9
<211> 170
<212> DNA
<213> Tobacco mosaic virus

<220>
<221> CDS
<222> (51)...(170)

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Met Gln
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gtg ctg aac acc atg gtg aac aaa cac ttc ttg tcc ctt tcg gtc ctc 104
Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser Val Leu
5 10 15

atc gtc ctc ctt ggc ctc tcc tcc aac ttg aca gcc ggc atg ctc cac 152
Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Met Leu His
20 25 30

ctg act cct gag gag aag 170
Leu Thr Pro Glu Glu Lys
35 40

<210> 10
<211> 40
<212> PRT
<213> Tobacco mosaic virus

<400> 10
Met Gln Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser
1 5 10 15
Val Leu Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Met
20 25 30
Leu His Leu Thr Pro Glu Glu Lys

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        35                  40

      <210> 11
      <211> 149
      <212> DNA
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gtg ctg aac acc atg gtg aac aaa cac ttc ttg tcc ctt tcg gtc ctc      104
Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser Val Leu
         5                  10                  15

atc gtc ctc ctt ggc ctc tcc tcc aac ttg aca gcc ggc atg              146
Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Met
     20                  25                  30

ctc                                                                  149

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      <212> PRT
      <213> Tobacco mosaic virus

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 1               5                  10                  15
Val Leu Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Met
            20                  25                  30

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      <212> DNA
      <213> Tobacco mosaic virus

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      <210> 14
      <211> 46
      <212> DNA
      <213> Tobacco mosaic virus

      <400> 14
tccctaggtc agattttctc ccagattttc tcccagattg cgtagc                   46

      <210> 15
      <211> 38
      <212> DNA
      <213> Tobacco mosaic virus
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<400> 15
ctctcgagat caatcatcca tctccgaagt gtgtctgc 38

<210> 16
<211> 34
<212> DNA
<213> Tobacco mosaic virus

<400> 16
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<210> 17
<211> 34
<212> DNA
<213> Nicotiana benthamiana

<400> 17
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<210> 18
<211> 34
<212> DNA
<213> Nicotiana benthamiana

<400> 18
cgtccaggtt gggcatacag cagtgtacat atgc 34

<210> 19
<211> 41
<212> DNA
<213> Nicotiana benthamiana

<400> 19
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<210> 20
<211> 38
<212> DNA
<213> Nicotiana benthamiana

<400> 20
taagcatgct gaaaggagaa gaacttttca ctggagtt 38

<210> 21
<211> 43
<212> DNA
<213> Nicotiana benthamiana

<400> 21
ctacctagga gatatccttg tatagttcat ccatgccatg tgt 43

<210> 22
<211> 34
<212> DNA
<213> Nicotiana benthamiana

<400> 22
cgtccaggtt gggcatacag cagtgtacat atgc 34

<210> 23
<211> 41
<212> DNA
<213> Nicotiana benthamaiana

<400> 23
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<210> 24
<211> 35
<212> DNA
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<400> 24
tcgagatcaa tcatccatct ccgaagtgtg tctgc 35

<210> 25
<211> 34
<212> DNA
<213> Tobacco mosaic virus

<400> 25
tccctaggtc agattttctc ccagattgcg tagc 34

<210> 26
<211> 38
<212> DNA
<213> Tobacco mosaic virus

<400> 26
gcctcgagtg caccatgcag gtgctgaaca ccatggtg 38

<210> 27
<211> 33
<212> DNA
<213> Tobacco mosaic virus

<400> 27
gagcatgccg gctgtcaagt tggaggagag gcc 33

<210> 28
<211> 42
<212> DNA
<213> Tobacco mosaic virus

<400> 28
tcttacagta tcactactcc atctcagttc gtgttcttgt ca 42

<210> 29
<211> 34
<212> DNA
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<400> 29

cgtccaggtt gggcatacag cagtgtacat atgc 34

<210> 30
<211> 36
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<400> 30
ctcgaggcat gctcctggat atctgttcca aaaacc 36

<210> 31
<211> 43
<212> DNA
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<400> 31
gaccggtcct aggttaacag cccagcagct ccaggcgcag ggc 43

<210> 32
<211> 38
<212> DNA
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<400> 32
cactcgagag catgctgcac ctgactcctg aggagaag 38

<210> 33
<211> 38
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<400> 33
cgtctagatt agtgatactt gtgggccagc gcattagc 38

<210> 34
<211> 26
<212> DNA
<213> Tobacco mosaic virus

<400> 34
ggctgtgaaa ctcgaaaagg ttccgg 26

<210> 35
<211> 36
<212> DNA
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<400> 35
cggggtacct gggccgctac cggcggttag gggagg 36

<210> 36
<211> 66
<212> DNA
<213> Tobacco mosaic virus

<400> 36
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taaatg 66

<210> 37
<211> 31
<212> DNA
<213> Nicotiana benthamiana

<400> 37
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<210> 38
<211> 38
<212> DNA
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<400> 38
gttttaaata gatcttacta taacatgaat agtcatcg 38

<210> 39
<211> 38
<212> DNA
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<210> 40
<211> 43
<212> DNA
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<400> 40
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<210> 41
<211> 38
<212> DNA
<213> Nicotiana benthamiana

<400> 41
gttttaaata gatcttactc cgacgtatag tcaccacg 38

<210> 42
<211> 49
<212> DNA
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<400> 42
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<210> 43
<211> 49
<212> DNA
<213> Nicotiana benthamiana

<400> 43
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<210> 44
<211> 16
<212> DNA
<213> Nicotiana benthamiana

<400> 44
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<210> 45
<211> 46
<212> DNA
<213> Nicotiana benthamiana

<400> 45
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<210> 46
<211> 45
<212> DNA
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<400> 46
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<210> 47
<211> 40
<212> DNA
<213> Nicotiana benthamiana

<400> 47
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<210> 48
<211> 50
<212> DNA
<213> Nicotiana benthamiana

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<210> 49
<211> 44
<212> DNA
<213> Nicotiana benthamiana

<400> 49
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